

WHAT IS CLAIMED IS:

1. An apparatus for manufacturing semiconductor devices, comprising:
a susceptor on which a substrate is positioned;
lift pin assembly for loading the substrate onto the susceptor;
a plurality of guiding blocks disposed around the edge of the susceptor, for
positioning the substrate at an aligned position on the susceptor; and
a guiding block transfer unit for moving the guiding blocks on the susceptor.
- 10 2. The apparatus of claim 1, wherein the susceptor comprises:
a plate; and
a spacer disposed at the edge of the plate on which the edge of the substrate is laid,
said spacer including a guiding lane along which the guiding blocks are moved.
- 15 3. The apparatus of claim 2, wherein each of the guiding blocks moves along the
guiding lane within a range defined by the radius of the plate.
4. The apparatus of claim 3, wherein the guiding block transfer unit comprises:
a shaft rotatable by a driver in a predetermined range of distances;
20 a plurality of horizontally-extending supporting rods attached to the shaft; and
a plurality of transfer rods connected between the supporting rods and the guiding
blocks, the transfer rods being pivotally coupled to the supporting rods so that when the shaft
rotates, the guiding blocks move along the guiding lanes and the transfer rods pivot.
- 25 5. The apparatus of claim 4, wherein the transfer rod comprises:
a horizontal portion pivotally coupled to the supporting rods;
a vertical portion coupled to the horizontal portion; and
a connection portion pivotally coupled to the vertical portion and the guiding block.
- 30 6. The apparatus of claim 1, wherein the guiding blocks are movable to a
plurality of positions based on processing temperature.
7. The apparatus of claim 6, wherein the guiding block transfer unit comprises a
transfer rod coupled to the guiding block by an attachment assembly extending through

openings formed in the guiding block and transfer rod, the attachment assembly being movable within the opening in the transfer rod to facilitate movement to a plurality of predetermined positions.

5 8. The apparatus of claim 5, further comprising a resilient element connected between the transfer rod and the plate, the resilient element being capable of moving the guiding block to a predetermined position.

10 9. The apparatus of claim 3, further comprising a testing unit for determining the location of the substrate on the susceptor.

15 10. The apparatus of claim 9, wherein the testing unit comprises:
a vacuum line in communication with a vacuum pump which extends to the upper space of the plate; and
a sensor for detecting pressure in the vacuum line.

20 11. The apparatus of claim 1, which is employed in a baking process conducted during said fabricating of said semiconductor devices.

25 12. A method of positioning a substrate on a susceptor during a semiconductor device fabricating process, the method comprising:
introducing the substrate onto lift pins protruding above the outer surface of the susceptor through openings disposed in the susceptor;
lowering the lift pins below the outer surface of the susceptor; and
moving guiding blocks, which are disposed at the edge of the susceptor, to position the substrate at a predetermined, aligned position on the susceptor.

30 13. The method of claim 12, wherein the guiding blocks move a predetermined distance when the lift pins are lowered below the outer surface of the susceptor.

14. The method of claim 12, wherein the lift pins are lowered when the guiding blocks move outwardly on the susceptor, and the guiding blocks move inwardly on the susceptor up to a displacement position when the lift pins are lowered below the outer surface of the susceptor.

15. The method of claim 12, further comprising the step of testing to determine the actual positioning of the substrate.

5 16. The method of claim 15, wherein testing comprises:
forming a space between the substrate and the susceptor in response to a
predetermined pressure; and
detecting a vacuum level in a vacuum line connected to and communicating with the
space.

10 17. The method of claim 12, further comprising adjusting the location of the
guiding blocks based on the substrate fabricating temperature.

15 18. A method for manufacturing a semiconductor devices, the method comprising:
providing a susceptor on which a semiconductor substrate is positioned;
loading the substrate onto the susceptor;
providing a plurality of guiding blocks disposed around the edge of the susceptor;
positioning the substrate at a predetermined, aligned position on the susceptor; and
moving the guiding blocks on the susceptor.

20 19. The method of claim 18, which further comprises moving the guiding blocks
comprises moving along a guiding lane.

25 20. The method of claim 18, which further comprises moving the guiding blocks
to a plurality of positions based on processing temperature.